

**PETITION FOR REVIVAL OF AN APPLICATION FOR PATENT
ABANDONED UNINTENTIONALLY UNDER 37 CFR 1.137(b)**Docket Number (Optional)
2135-00500

First named inventor: Jason Daniel Harold O'Connor

Application No.: 10/521,835

Art Unit: 3742

Filed: January 19, 2005

Examiner: Stephen J. Ralis

Title: Electrical Heating Cable

Attention: Office of Petitions

Mail Stop Petition

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

FAX (571) 273-8300

NOTE: If information or assistance is needed in completing this form, please contact Petitions Information at (571) 272-3282.

The above-identified application became abandoned for failure to file a timely and proper reply to a notice or action by the United States Patent and Trademark Office. The date of abandonment is the day after the expiration date of the period set for reply in the office notice or action plus an extensions of time actually obtained.

APPLICANT HEREBY PETITIONS FOR REVIVAL OF THIS APPLICATION

NOTE: A grantable petition requires the following items:

- (1) Petition fee;
- (2) Reply and/or issue fee;
- (3) Terminal disclaimer with disclaimer fee - required for all utility and plant applications filed before June 8, 1995; and for all design applications; and
- (4) Statement that the entire delay was unintentional.

1. Petition fee
☒ Small entity-fee \$ 750.00 (37 CFR 1.17(m)). Applicant claims small entity status. See 37 CFR 1.27.

☐ Other than small entity - fee \$ _____ (37 CFR 1.17(m))
2. Reply and/or fee

A. The reply and/or fee to the above-noted Office action in the form of a Request for Continued Examination (identify type of reply):

- ☐ has been filed previously on _____.
- ☒ is enclosed herewith.

B. The issue fee and publication fee (if applicable) of \$ _____.

- ☐ has been paid previously on _____.
- ☐ is enclosed herewith.

[Page 1 of 2]

This collection of information is required by 37 CFR 1.137(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

3. Terminal disclaimer with disclaimer fee

☒ Since this utility/plant application was filed on or after June 8, 1995, no terminal disclaimer is required.

☐ A terminal disclaimer (and disclaimer fee (37 CFR 1.20(d)) of \$ _____ for a small entity or \$ _____ for other than a small entity) disclaiming the required period of time is enclosed herewith (see PTO/SB/63).

4. STATEMENT: The entire delay in filing the required reply from the due date for the required reply until the filing of a grantable petition under 37 CFR 1.137(b) was unintentional. [NOTE: The United States Patent and Trademark Office may require additional information if there is a question as to whether either the abandonment or the delay in filing a petition under 37 CFR 1.137(b) was unintentional (MPEP 711.03(c), subsections (III)(C) and (D)).]

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

_____/Collin A. Rose, Reg. 47,036/

Signature

_____/August 13, 2007

Date

_____/Collin A. Rose

Typed or printed name

_____/47,036

Registration Number, if applicable

_____/600 Travis St., Suite 7100

Address

_____/ (713) 238-8000

Telephone Number

_____/Houston, Texas 77002

Address

Enclosures: ☒ Fee Payment

☒ Reply

☐ Terminal Disclaimer Form

☒ Additional sheets containing statements establishing unintentional delay

☐ Other: _____

CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR 1.8(a)]

I hereby certify that this correspondence is being:

☐ Deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop Petition, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450.

☐ Transmitted by facsimile on the date shown below to the United States Patent and Trademark Office at (571) 273-8300.

_____/Date

_____/Signature

_____/Typed or printed name of person signing certificate

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	Jason Daniel Harold O'Connor	§	
		§	
Serial No.:	10/521,835	§	Group Art Unit: 3742
		§	
Filed:	January 19, 2005	§	Examiner: Stephen J. Ralis
		§	
For:	Electrical Heating Cable	§	

Statements Supporting Petition to Revive

Mail Stop Petition
Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Att'y Docket No. 2135-00500

Date: August 13, 2007

Dear Sirs:

The entire delay in filing the required reply from the due date for the required reply until the filing of this petition under 37 CFR 1.137(b) was unintentional.

On November 3, 2006, examiner Ralis issued the second Office action for this application. As can be seen in the attached copy, the Status indication on the Office Action Summary page indicated that the Office Action was non-final. Additionally, to the best of applicant's knowledge and belief, even the U.S. Patent Office P.A.I.R. system listed the Office Action as a non-final Office Action. However, at the end of the Office Action, the Conclusion paragraph describes the Office Action as final. Also, the status of the Office Action on the P.A.I.R. system has since been updated.

Because the Status indicated the Office Action was non-final, the Office Action was docketed as a non-final Office Action. As such, only a Response to Office Action was filed electronically on May 3, 2007, with the requisite extension of time fees being paid and listing the address as Mail Stop Amendment. An e-filing acknowledgement receipt, a copy of which is attached, was received, indicating that the Response was timely received. A later Notice of Non-Compliant Amendment was also timely responded to on May 17, 2007. Thus, clearly, the applicant intended to prosecute the current application and did not fail to respond to the Office Action within the six month deadline. Although the applicant filed a timely response with the Response to Office Action dated May 3, 2007, an Advisory Action issued August 6, 2007

indicated that the filed Response did not place the application in condition for allowance and the application now stands abandoned.

The fact that a Request for Continued Examination was not filed by the six month deadline was clearly resulting from a docketing error both on the part of the U.S. Patent Office P.A.I.R. system as well as an employee working with the undersigned in performance of their clerical function. And, as already discussed, the error was the direct cause of the delay at issue. Had the Office Action not been docketed as a non-final Office Action, the applicant would have taken appropriate measures, e.g., file a Request for Continued Examination, so as to preserve the pendency of the application. Additionally, the undersigned works with full-time employees dedicated to maintaining the docket for all patent matters according to formal procedures using computerized docketing software. As shown by the attached docketing reports, the Office Action in question was received and docketed as a non-final Office Action. Thus, there was in place a business routine for performing the clerical function that could reasonably be relied upon to avoid errors in its performance. Also, the docketing employee who docketed the Office action has been assisting with patent applications for seven years and has been trained for her position. Thus, the employee was sufficiently trained and experienced with regard to the function and routine for the docketing procedure and reliance upon the employee represented the exercise of due care.

Additionally, the applicant was not aware of the status of the application until the issuance of the Advisory Action on August 6, 2007. The undersigned was out of the office for jury duty but has been diligently contacting for the primary examiner and his supervisor to determine the best course of action to take at this time. Also, the applicant was notified by the undersigned immediately, but the applicant is located overseas in the United Kingdom. Thus, the Petition and accompanying Request for Continued Examination were immediately drafted but the undersigned's absence from the office and the time delay in communicating with the applicant have been the only reason for the time period between the issuance of the Advisory Action and the filing of this Petition.

Thus, the entire delay in filing the required reply from the due date for the required reply until the filing of this petition under 37 CFR 1.137(b) was clearly unintentional. The applicant now petitions to revive the abandoned application. It is believed that no extensions of time or fees are required, beyond those that may otherwise be provided for in documents accompanying

this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a). If any fees are inadvertently omitted or if any additional fees are required or have been overpaid, please appropriately charge or credit those fees to Conley Rose, P.C. Deposit Account Number 03-2769 (ref. 2135-00500) of Conley Rose, P.C., Houston, Texas.

Respectfully submitted,
CONLEY ROSE, P.C.

/Collin A. Rose, Reg. No. 47,036/

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UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,835	03/17/2005	Jason Daniel Harold O'Connor	2135-00500	2402

23505 7590 11/03/2006

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HOUSTON, TX 77253-3267

EXAMINER

RALIS, STEPHEN J

ART UNIT

PAPER NUMBER

3742

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/521,835

Examiner

Stephen J. Ralis

Applicant(s)

O'CONNOR, JASON DANIEL
HAROLD

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 January 2005 and 18 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant is notified of receipt and acknowledgement, on 18 July 2006, of the amendments to Application No. 10/521,835, filed on 19 January 2005.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1, 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. (U.S. Patent No. 4,117,312) in view of Horsma (U.S. Patent No. 4,314,145).

Johnson et al. disclose an electric heating cable comprising: at least two power conductors 10, 12 extending along the length of the cable C and at least one heating

element 38 which extends along the cable and between the two conductors (10, 12), and connected in parallel between the conductors (i.e. heating material 38 continuously connected to conductors 10, 12), wherein at least one of the conductors is encased in a partial sheath 36 of material which has a temperature of coefficient of resistance material (i.e. layer 36 is coated on at least one of the conductors 10, 12, column 4, lines 25-38; see Figure 4; note: Figure 3 shows insulation jacket with slits 20, 22 and temperature of coefficient of resistance material 18 within the slits 20 between the conductor 10 and heating element 16; Figure 6 shows that insulation layers 58, 60 can partially or completely encase the conductors); and the heating element 38 electrically contacts the outer surface of the sheath 36 (column 4, lines 25-38; see Figure 4) such that the sheath is electrically connected in series between each heating element and the conductor encased by the sheath (column 4, lines 30-35); wherein the heating element 38 comprises a semi-conductor (i.e. thermoplastic material having graphite particles deposited within; column 8, claim14).

The claims differ from John et al. in calling for the PTC sheath to completely surround the conductor. However, electrode conductors for generating heat completely encased in a PTC layer/sheath, as described by Horsma, is known in the art. Horsma teaches electrodes of heat generating cables being 100% in contact with the PTC to provide not only for better electrical characteristics but also for ease of manufacture (column 7, line 52 – column 8, line 4; see Figures 1-8). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the partial layer PTC layer of Johnson et al. with the complete annular surrounding of the PTC

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layer of Horsma to provide not only for better electrical characteristics but also for ease of manufacture.

With respect to the heating element comprising a heating wire instead of a continuously heating material, Johnson et al. disclose that Figure 3 (i.e. heating element comprising heating wire) is an equivalent structure known in the art with respect to Figure 4 (i.e. continuously heating material 38). Johnson et al. also disclose a heating wire 16, which extends along the cable and between the two conductors 10, 12, so as to define a series of heating elements connected in parallel between the conductor. Johnson et al. further disclose a temperature sensitive variable resistance material 18 connected to conductor 10 similarly as the coating layer 36. Therefore because these two heating elements were art recognized equivalents at the time of the invention was made and manufacturing of resistance wire elements is more cost effective than the process of a heating element material, one of ordinary skill in the art would have found it obvious to substitute the heating wire 16 for the heating material 38.

5. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heizer (U.S. Patent No. 6,144,018) in view of Horsma et al. (U.S. Patent No. 4,117,312).

Heizer discloses an electric heating cable comprising: at least two power conductors 1 extending along the length of the cable and at least one heating element (i.e. heating wire 5/8) which extends along the cable and between the two conductors 1 encased in an insulation sheaths 2 and connected in parallel between the conductors

(via alternating openings 4 along the length of the cable; column 3, lines 56-60); and the heating element (5, 8) electrically contacts the outer surface of the insulation sheaths such that the sheath is electrically connected in series between each heating element and the conductor encased by the sheath (see Figure 6).

The claims differ from Heizer in calling for at least one of the conductors is encased in a sheath of material that has a positive temperature coefficient. However, encasing at least one electrode conductor in a PTC sheath, as described by Horsma, is known in the art. Horsma teaches the surrounding of at least one electrode with a PTC sheath (Abstract; column 7, line 52 – column 8, line 4; see Figures 1-8) to provide to decrease the flow of current in response to the increased resistance, limiting power output from the cable, preventing the overheating of the heating cable, thereby increasing the overall safety of the device.

Heizer further discloses the first conductor 1 encased in an insulation sheath 2; a third sheath (i.e. insulator coat 3) encasing the first and second sheaths; portions of the third sheath being removed to cause the heating wire to contact the second sheath; the first sheath being in contact with the second sheath (see Figure 2); and portions of the first and third sheaths removed to cause the heating wire to contact the first conductor (column 3, lines 50-67, column 4, lines 1-2).

6. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. (U.S. Patent No. 4,117,312) in view of Horsma (U.S. Patent No.

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4,314,145) as applied to claim 1 above, and further in view of Cole (U.S. Patent No. 4,684,785).

The Johnson-Horsma electrical heating cable combination discloses all of the limitations, as described in claim 1 above, except for the heating element comprising a material having a positive temperature coefficient (PTC) and a heating element comprising a material having a negative temperature coefficient (NTC). However, heating elements comprising PTC or NTC material, as described by Cole, is known in the art. Cole teaches that it is known in the art to have a PTC heating element (14) between two electrodes (10, 12; typical PTC cable; column 2, lines 24-52) to provide a heating element that uses the advantages of a positive temperature coefficient material (i.e. increase in resistivity with respect to temperature), thereby providing a better self-regulating heater. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify heating element of the Johnson-Horsma electrical heating cable combination with the PTC heating element of Cole to provide a heating element that uses the advantages of a positive temperature coefficient material, thereby providing a self-regulating heater.

With respect to the limitation the heating element being an NTC material, Cole further teaches that is similarly known in the art to have an NTC material between two electrodes that uses the advantages of a negative temperature coefficient material (i.e. decrease in resistivity with respect to temperature), to provide a heating element that uses the advantages of a negative temperature coefficient material (i.e. decrease in resistivity with respect to temperature), thereby providing a better self-regulating heater.

With respect to the limitation of the positive temperature coefficient of the heating element and the positive temperature coefficient of the sheath of material being selected such that the cable is self-regulating up to a predetermined temperature at which it self-limits, the Johnson-Horsma-Cole electrical heating cable combination would have selective PTC material for both the heating element and the sheath, and this combination would inherently self-regulate the cable at a predetermined temperature. With respect to defining the predetermined temperature, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to select the PTC material of the heating element and the sheath such that the cable is self-regulating up to a predetermined temperature at which it self-limits, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

7. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heizer (U.S. Patent No. 6,144,018) in view of Horsma et al. (U.S. Patent No. 4,117,312) as applied to claim 1 above, and further in view of Cole (U.S. Patent No. 4,684,785).

The Heizer-Horsma electrical heating cable combination discloses all of the limitations, as described in claim 1 above, except for the heating element comprising a material having a positive temperature coefficient (PTC) and a heating element comprising a material having a negative temperature coefficient (NTC). However, heating elements comprising PTC or NTC material, as described by Cole, is known in

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the art. Cole teaches that it is known in the art to have a PTC heating element (14) between two electrodes (10, 12; typical PTC cable; column 2, lines 24-52) to provide a heating element that uses the advantages of a positive temperature coefficient material (i.e. increase in resistivity with respect to temperature), thereby providing a better self-regulating heater. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify heating element of the Johnson-Horsma electrical heating cable combination with the PTC heating element of Cole to provide a heating element that uses the advantages of a positive temperature coefficient material, thereby providing a self-regulating heater.

With respect to the limitation the heating element being an NTC material, Cole further teaches that is similarly known in the art to have an NTC material between two electrodes that uses the advantages of a negative temperature coefficient material (i.e. decrease in resistivity with respect to temperature), to provide a heating element that uses the advantages of a negative temperature coefficient material (i.e. decrease in resistivity with respect to temperature), thereby providing a better self-regulating heater.

With respect to the limitation of the positive temperature coefficient of the heating element and the positive temperature coefficient of the sheath of material being selected such that the cable is self-regulating up to a predetermined temperature at which it self-limits, the Heizer-Horsma-Cole electrical heating cable combination would have selective PTC material for both the heating element and the sheath, and this combination would inherently self-regulate the cable at a predetermined temperature. With respect to selecting specific PTC material defining the predetermined temperature

range at which it self-limits, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to select the PTC material of the heating element and the sheath such that the cable is self-regulating up to a predetermined temperature at which it self-limits, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Response to Arguments

8. Examiner accepts amendments to the Drawings, Title and Claims and respectfully withdraws the objections, accordingly.
9. Applicant's arguments with respect to claims 1-5 and 7-11 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Ralis whose telephone number is 571-272-6227. The examiner can normally be reached on Monday - Friday, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

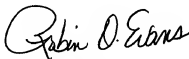
Art Unit: 3742

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Stephen J Ralis
Examiner
Art Unit 3742

SJR
September 28, 2006



ROBIN EVANS
SUPERVISORY PATENT EXAMINER

10/30/06

Notice of References Cited

Application/Control No.

10/521,835

Applicant(s)/Patent Under
Reexamination
O'CONNOR, JASON DANIEL H

Examiner

Stephen J. Ralis

Art Unit

3742

Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-4,684,785	08-1987	Cole, Graham M.	219/212
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes



Application/Control No.

10/521,835

Examiner

Stephen J. Ralis

Applicant(s)/Patent under
Reexamination

O'CONNOR, JASON DANIEL
HAROLD

Art Unit

3742

SEARCHED

Class	Subclass	Date	Examiner
219	549	3/7/2006	SR
219	505	3/7/2006	SR
219	544	3/7/2006	SR
219	546	3/7/2006	SR
219	548	3/7/2006	SR
338	214	3/7/2006	SR
338	243	3/7/2006	SR
338	247	3/7/2006	SR
338	260	3/7/2006	SR
338	261	3/7/2006	SR
338	267	3/7/2006	SR
219	528	3/7/2006	SR
219	541	3/7/2006	SR

Search updated 9/26/06 *[Signature]*

INTERFERENCE SEARCHED

Class	Subclass	Date	Examiner

SEARCH NOTES (INCLUDING SEARCH STRATEGY)

	DATE	EXMR
Consulted John Jeffery for first class searches.	3/7/2006	SR
Inventor Search	3/7/2006	SR
Text Searches: See EAST notes for more info	3/7/2006	SR

Index of Claims



Application/Control No.

10/521,835

Examiner

Stephen J. Ralis

Applicant(s)/Patent under
Reexamination

O'CONNOR, JASON DANIEL
HAROLD

Art Unit

3742

☒ Rejected

☐ Allowed

☐ (Through numeral)
Cancelled

☐ Restricted

☐ Non-Elected

☐ Interference

☐ Appeal

☐ Objected

Claim	Final	Original	Date
1		37/06	
2		37/06	
3		37/06	
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Claim	Final	Original	Date
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Electronic Acknowledgement Receipt

EFS ID:	1743520
Application Number:	10521835
International Application Number:	
Confirmation Number:	2402
Title of Invention:	Electrical heating cable
First Named Inventor/Applicant Name:	Jason Daniel Harold O'Connor
Customer Number:	23505
Filer:	Collin A. Rose
Filer Authorized By:	
Attorney Docket Number:	2135-00500
Receipt Date:	03-MAY-2007
Filing Date:	17-MAR-2005
Time Stamp:	23:35:09
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	yes
Payment was successfully received in RAM	\$ 1020
RAM confirmation Number	1338
Deposit Account	032769

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:
Charge any Additional Fees required under 37 C.F.R. Section 1.16 and 1.17

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)	Multi Part /.zip	Pages (if appl.)
1	Amendment - After Non-Final Rejection	2135-00500_Reply_to_Office_Action_dated_11-03-2006.pdf	229179	no	10
Warnings:					
Information:					
2	Extension of Time	2135-00500_Petition_for_Extension_of_Time.pdf	265387	no	1
Warnings:					
Information:					
3	Extension of Time	2135-00500_Petition_for_Extension_of_Time2.pdf	265389	no	1
Warnings:					
Information:					
4	Fee Worksheet (PTO-06)	fee-info.pdf	8146	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			768101		
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

Actions Due

Friday, August 10, 2007

Page: 1

Docket No.: 2135-00500

SubCase: NP

Country: US United States of America

Case Type: PCT

Status: Published

Filing Date: 17-Mar-2005

Action Type: HC/RUS Petition to Revoke

Base Date: 08-Aug-2007

Application #: 10/521,835

Response sent date:

Action(s) Due	Due Date	Indicator	Taken
File Petition to Revoke-DEADLI	08-Sep-2007	A	

Remarks:

Rec'd AA dt 8/8/07. Amendis not entered - raise new matter. Action mailed on 11/3/06 was FINAL REJ, although OA box checked was Non-Final. Dcktd as Non-Final. CAR to call examiner 8/9/07.

-Resp to Ntc of Non-Compliant Amend dt 5/9/07 efiled 5/17/07.

-Rec'd Ntc of Non-Compliant Amend dt 5/9/07; Resp due 6/9/07.

-Resp to OA dt 11/3/06 efiled 5/7/07.

-Rec'd OA dt 11/3/06; Resp due 2/20/06 (dwgs accepted; Ntc of Ref'd; Partially Accepted)
dt 2/24/07 - resp will be due 5/2/07 for filing

-Resp to OA dt 3/20/06 efiled 7/18/06.

-OA Dated 3/20/06; resp due 6/20/06 (dwgs filed 1/19/05 objected; replacement dwgs including correction required in reply to this action; new title proposed)

-OA Dated 3/20/06; resp due 6/20/06 (dwgs filed 1/19/05 objected (Replacement dwgs including correction required in reply to this action); foreign priority certified copies recd and ack'd, IDS filed 1/19/05 and 4/15/05 ack'd).

-Suppl IDS filed 4/12/05.

-3-18-05 amsc fax ltr (confirmation recd 3/28/05 w/encl)-file another IDS listing USP 5512732 id'd by the applt in the spec itself; and (USP4937435.

-Appln filed 1/19/05 (w/ADS, Publ'd PCT Appln w/SR, IDS, PCT/IB/308, 3 shts, Fig. 2).

-Ntc of New or Revised proj pub dt 8/11/05, proj pub dt 11/17/05.

-Suppl IDS filed 4/12/05.

-Suppl ADS and Decl filed 3/17/05 (Decl only stated the PCT#).

-Ntc of Rec Assign Dt 3/17/05; Rec 3/17/05, RFO15791-0459 (HETL).

-Send Decl and/or any other necessary Formal Documents to assoc (POA, Assign, etc.).

-PC-serv recd PTO 1/19/05.

Appln filed 1/19/05 (w/ADS, Publ'd PCT Appln w/SR, IDS, PCT/IB/308).

-USNP Deadline 1/20/05; file U.S. National Phase application in the name of Heat Trace Limited.

-1-5-05: via courier only dkig recd ltr dt 1/5/05 for appln to be filed by 1/20/05 in the name of Heat Trace Limited; Publ'd PCT Spec and ISR w/confirmatory copy recd; soft copy of text of spec to be sent by e-mail; Please send them Decl and Assign forms. Original fax was not recd by a/hapu.

User ID: rbridwell

Wednesday, January 24, 2007

Conifer Research PC

Priority: Standard Confidential

QUICK DOCKET

Page 11

24 Jan 2007 To 04 Feb 2007

A. Attys, Secys, Paralegals, Firm

Due Date	Action Due	Bucket No./SubCase/Country	Status	Resp. Office	Attys
02-Feb-2007	Foreign Filing - DEADLINE	2458-00200/US	Pending	Houston	GLM
Q	HCRUS Foreign Filing				MAS
Remarks: FF due 2/2/07; lit to cll 1/9/06.					
03-Feb-2007	Response Due-Election	1030-23701/US	Published	Houston	GLM
A	HCRUS Re-election Requirement				DVF
Remarks: Rec'd Restr Req dt 1/3/07, Resp due 2/3/07. (Spec I - Figs 3&4; Spec H - Fig 5; Spec III - Figs 7-9).					
03-Feb-2007	Office Action Response-Inv ext	1391-51760/US	Pending	Houston	DAR
A	HCRUS Office Action - 3 mo				DJK
Remarks: Rec'd OA dt 1/3/06; Resp due 1/3/06. Drawings filed 11/18/04 are accepted. IDS filed 11/04 acknowledged. Ntc of Refs Cited (Dkt'd in corresponding GB app). Lit sent cllt dt 1/22/07 req instr for resp.					
03-Feb-2007	3rd Possible Due Date	1391-59201/WO	Published	Houston	DAR
Q	HCRUS Demand & 34(2)(b) Amendment				CAR
Title: Multi-Purpose Downhole Tool PCT					
03-Feb-2007	Office Action Response Due	1787-15900/US	Pending	Houston	GLM
A	HCRUS Office Action - 3 mo				DVF
Remarks: Rec'd OA dt 11/3/06; Resp due 2/3/07 w/ the Spec Objected to (Abstract), Drawings NOT accepted, & Ntc of Ref. Cited (No Foreign/PCT related Appln for DKTD). Lit sent cllt dt 11/10/06 req instr for resp.					
03-Feb-2007	Office Action Response Due	2135-00500 / NP/US	Published	Houston	CAR
A	HCRUS Office Action - 3 mo				NB
Remarks: Rec'd OA dt 11/3/06, Resp due 2/3/07 w/ Drawgs accepted, Ntc of Ref cited.					
03-Feb-2007	Office Action Response Due	2162-65300/US	Pending	Houston	JMR
A	HCRUS Office Action - 3 mo				ADC
Remarks: Rec'd OA dt 11/3/06, Resp due 2/3/07.					
03-Feb-2007	Foreign Filing - DEADLINE	2238-01790/US	Pending	Houston	TSW
Q	HCRUS Foreign Filing				CGM
Remarks: FF due 2/24/07; lit to cll 1/17/06.					
03-Feb-2007	Prov Conversion - DEADLINE	2238-01790/US	Pending	Houston	TSW
A	HCRUS PRO Conversion Appln				CGM
Remarks: Conversion deadline 2/3/07. Lit sent cllt re filing instruct dt 10/17/06.					

A = To Any PTO

C = To Client

Legend- Indicators

Q = To Associate T = Tax, Annuality or Renewal

B = From Any PTO B = Obtain Instr From Client

O = To Any PTO P = Paralegal

Foreign; U = Obtain Instruction From Associate

L = Litigation M = US and Foreign Annulities

(non-deadline) To Process

I = Inactive Z = Closed